

REPLACEMENT CLAIMS

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G1 } 1. (four times amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing etching bath for processing semiconductor wafers, said method comprising:

rapidly removing an upper portion of a semiconductor processing fluid present in said bath while said wafers are in said bath to remove said surface contaminants from said air/liquid interface.

F2 SUB H1 } 6. (amended) The method for removing contaminants from a processing bath for processing semiconductor wafers according to claim 1, wherein said contaminants include silica.

F3 7. (four times amended) A method for reducing the contamination on a semiconductor wafer from a wet etching bath comprising:

processing said semiconductor wafer in said wet etching bath containing an etching fluid;

subsequently rapidly removing a substantial portion of an upper portion of said etching fluid from said wet etching bath to remove surface contaminants from an air/liquid interface of said wet etching bath while retaining said semiconductor wafer in said wet etching bath; and

subsequently removing said semiconductor wafer from said wet etching bath.

SUB H1 } F4 } 9. (amended) The method for reducing the contamination on a semiconductor wafer from a wet etching bath according to claim 7, wherein said upper portion of said

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etching fluid is removed by draining a top portion of said etching fluid from said wet etching bath.

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11. (four times amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing etching bath for processing semiconductor wafers, said method comprising rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by opening a valve in said bath to remove said surface contaminants from said air/liquid interface.

Pub G3
12. (four times amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing cleaning bath for processing semiconductor wafers, said method comprising rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by hingedly releasing a door located at an upper portion of said bath to remove said surface contaminants from said air/liquid interface.

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14. (four times amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing etching bath for processing semiconductor wafers, said method comprising rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by rapidly removing a wafer boat containing said semiconductor wafer from said bath to remove said surface contaminants from said air/liquid interface.

Pub G4
15. (four times amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing cleaning bath for processing semiconductor wafers, said method comprising rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by

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telescoping collapsing sidewalls of a vessel containing said bath to remove said surface contaminants from said air/liquid interface.

17. (four times amended) A method for etching a semiconductor wafer, said method comprising:

placing an aqueous hydrofluoric acid etching fluid into a wet etching vessel;

placing said semiconductor wafer in said etching fluid;

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contacting said semiconductor wafer with said etching fluid for a predetermined time;

rapidly removing a portion of said etching fluid from the upper surface of said wet etching vessel while keeping said semiconductor wafer immersed in said etching fluid; and

removing said semiconductor wafer from said etching fluid.

25. (four times amended) A method for etching a semiconductor wafer, said method comprising:

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placing an aqueous hydrofluoric acid solution into a wet etching vessel;

placing said semiconductor wafer in said aqueous hydrofluoric acid solution;

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contacting said semiconductor wafer with said aqueous hydrofluoric acid solution for a predetermined time; and

FIG 8
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rapidly removing a portion of said aqueous hydrofluoric acid solution from the upper surface of said wet etching vessel by telescopically collapsing sidewalls of said wet etching vessel.

44. (four times amended) A method for reducing the contaminants on a silicon wafer during a wet etching process, said method comprising:

FIG 9
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immersing a wafer boat in an etching vessel having an aqueous hydrofluoric acid solution therein for a sufficient time to etch said silicon wafer; and

rapidly removing said wafer boat from said etching vessel to remove surface contaminants residing on the upper surface of said aqueous hydrofluoric acid solution by causing said aqueous hydrofluoric acid solution to spill out of said vessel.

FIG 10
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52. (twice amended) A method for removing surface contaminants from a semiconductor processing bath for processing silicon wafers, said method comprising removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by sliding a door located at an upper portion of said bath.

58. (twice amended) A method for etching a semiconductor wafer, said method comprising:

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placing an aqueous hydrofluoric acid solution into a wet etching vessel;

FIG 11

placing said semiconductor wafer in said aqueous hydrofluoric acid solution;

contacting said semiconductor wafer with said aqueous hydrofluoric acid solution for a predetermined time; and

Pat Asad removing a portion of said aqueous hydrofluoric acid solution from the upper surface of said wet etching vessel by sliding a door located at an upper portion of said wet etching vessel.
